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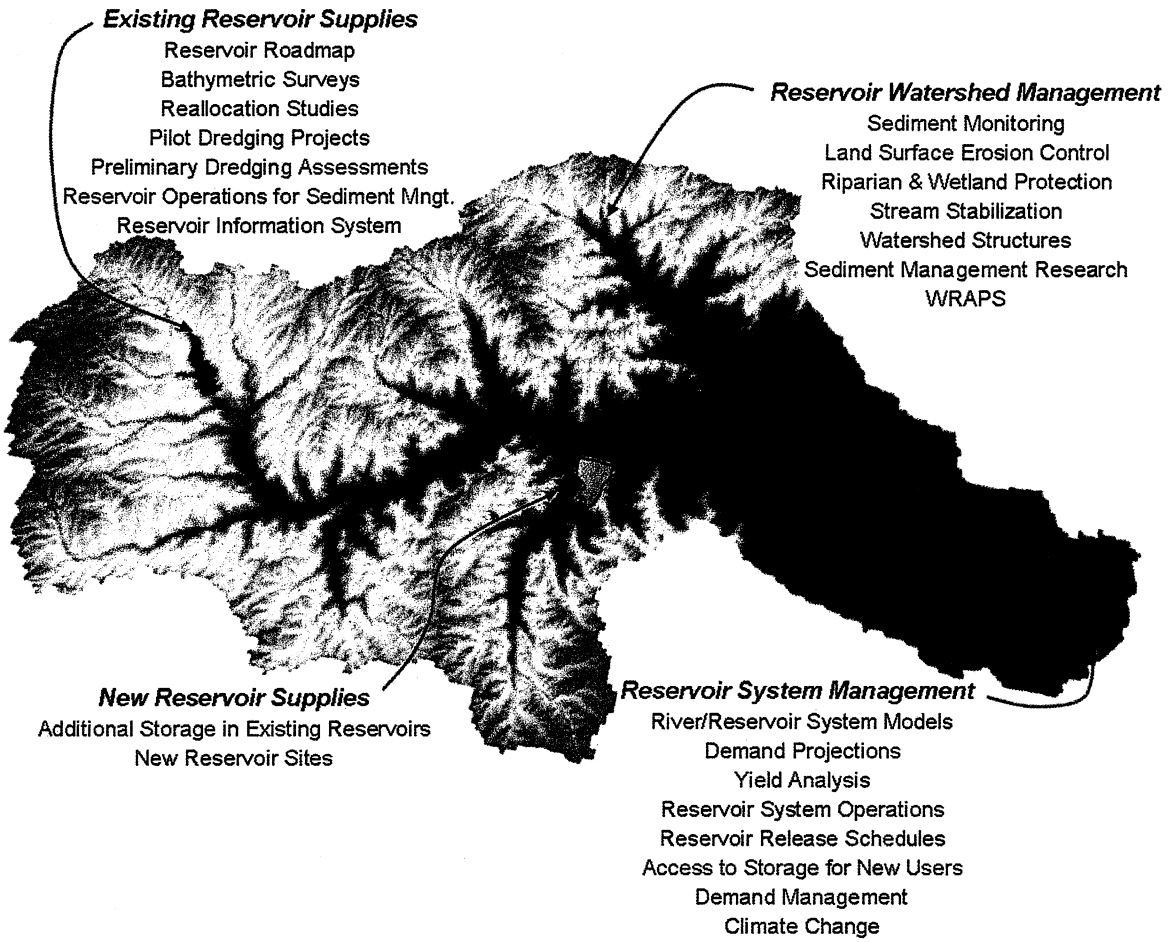
Reservoir Information

Federal reservoirs are an important source of water supply in Kansas, providing water in some manner to roughly two-thirds of Kansas' citizens. The State of Kansas owns storage in thirteen federal reservoirs operated by the U.S. Army Corps of Engineers. The ability of the reservoir to store water over time is diminished as the capacity is reduced through sedimentation. In some cases reservoirs are filling with sediment faster than anticipated. Whether sediment is filling the reservoir on or ahead of schedule, it is beneficial to take efforts to extend the life of the reservoir.

Reservoir Sustainability Initiative

Early in the 2009 Legislative Session, several Kansas natural resource agencies had the opportunity to present the Reservoir Sustainability Initiative to the newly created Vision 2020 committee. Presentations were made to the committee to highlight the existing condition of our reservoirs, actions currently underway to address sedimentation, and the need for a long-term commitment to our public water supply infrastructure. As requested by the committee, the Kansas Water Authority prepared a comprehensive report for the 2010 Legislature called the Reservoir

Roadmap. The Reservoir Sustainability Initiative Graphic identifies the components of the Reservoir Sustainability Initiative within the context of a hypothetical watershed.



Reservoir Roadmap

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The Reservoir Roadmap outlines the actions necessary to insure an adequate future water supply for areas currently or potentially served by federal, state or municipal reservoirs. The Reservoir Roadmap describes the current condition of our water supply and outlines the recommended actions to secure, protect, and restore this supply in the Neosho basin. Implementation of these actions will require statutory changes and dedicated financial resources.

- Volume I. Quantification of the Issue - Statewide Perspective
- Volume II. Statutory and Budget Considerations
- Volume III. Basin Approach to Reservoir Sustainability

Reservoir Accounting

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The Kansas Water Office maintains reservoir accounting information for each of the federal lakes shown below. Information such as inflow, releases, and water in storage for each of the subpools within the conservation pool for each lake will be posted within one month after each calendar month.

Big Hill Lake	**Cedar Bluff Lake**	**Clinton Lake**
Current Year or Previous Years	Current Year or Previous Years	Current Year or Previous Years

Council Grove Lake Current Year or Previous Years	**Elk City Lake** Current Year or Previous Years	**Hillsdale Lake** Current Year or Previous Years
John Redmond Lake Current Year or Previous Years	**Kanopolis Lake** Current Year or Previous Years	**Marion Lake** Current Year or Previous Years
Melvern Lake Current Year or Previous Years	**Milford Lake** Current Year or Previous Years	**Perry Lake** Current Year or Previous Years
Pomona Lake Current Year or Previous Years	**Tuttle Creek Lake** Current Year or Previous Years	

Reservoir Bathymetry

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Bathymetric & Sediment Surveys
Atchison County Lake, Atchison County, KS
Banner Creek Reservoir, Jackson County, KS
Cedar Valley Lake, Anderson County, KS
Centralia City Lake, Nemaha County, KS
Clinton Lake Reservoir, Douglas County, KS
Council Grove City Lake, Morris County, KS
Council Grove Reservoir, Morris County, KS
Elk City Reservoir, Montgomery County, KS
Fall River Reservoir, Greenwood County, KS
Fort Scott Lake, Bourbon County, KS
Herington City Lake, Dickinson County, KS
Herington Reservoir, Dickinson County, KS
Hillsdale Reservoir, Miami County, KS
John Redmond Reservoir, Coffey County, KS
Kanopolis Reservoir, Ellsworth County, KS
Lake Shawnee, Shawnee County, KS
Louisburg-Middle Creek Lake, Miami County, KS
Madison City Lake, Greenwood County, KS
Marion Reservoir, Marion County, KS
Melvern Reservoir, Osage County, KS
Miola Lake, Miami County, KS
Mission Lake, Brown County, KS
Osage City Lake, Osage County, KS
Parsons Lake, Neosho County, KS
Pomona Reservoir, Osage County, KS
Pottawatomie Lake #1, Pottawatomie County, KS
Rock Creek Lake, Bourbon County, KS
Sabetha-Pony Creek Lake, Brown County, KS
Toronto Reservoir, Woodson County, KS

Wabaunsee Lake, Wabaunsee County, KS
Wellington City Lake, Sumner County, KS
Wilson Lake Reservoir, Russell County, KS
Wilson County State Fishing Lake, Wilson County, KS
Winfield City Lake, Cowley County, KS
Woodson County State Fishing Lake, Woodson County, KS
Yates Center Old Reservoir, Woodson County, KS
Yates Center New Reservoir, Woodson County, KS

Lake Level Management

- Lake Level Management Plans WY 2012 Report

NOTE: Due to recent drought conditions and potential persistence of drought, plans that specify a seasonal elevation below the normal conservation pool elevation will not be followed. Water will not be released from conservation storage for the purpose of lake level management.

The purpose of Lake Level Management is to increase the benefits to recreational users and increase wildlife and aquatic habitat while protecting the flood control, water supply and water quality purposes of the lake. The KWO is charged by the State Water Planning Act with negotiating and entering into agreements with the Corps of Engineers and the Bureau of Reclamation regarding operation or releases of water from federal projects. These two federal agencies are responsible for the operation and maintenance for the state's 24 federal lakes.

Reservoir Information

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Federal reservoirs are a vital resource for public water suppliers in Kansas, providing regional sources of stored untreated water to surrounding communities and industries. Communities either draw water directly from reservoirs, or from rivers where the flow can be supplemented from releases from the reservoirs. The KWO is working with other federal, state and local agencies to extend the usable life of these reservoirs through the development and implementation of watershed and reservoir restoration and protection strategies.

The KWO administers the State's Water Marketing and Water Assurance Programs, which utilize federal reservoirs to help meet the water supply needs of municipalities and industries in Kansas. Over time the transport and deposition of sediment from rivers and streams that drain into the reservoir reduces the amount of storage space available to store water. Pollutants and nutrients carried by these rivers and streams also degrade the quality of the water stored in these reservoirs. The following fact sheets provide a general overview of sedimentation issues associated with federal reservoirs in Kansas and the State Water Marketing and Water Assurance Programs. The reservoir fact sheets provide specific information about individual reservoirs.

Reservoir Information Sheets		
Big Hill, Pearson-Skubitz	Cedar Bluff Lake	Clinton Lake
Council Grove Lake	Elk City Lake	El Dorado Lake
Fall River Lake	Hillsdale Lake	John Redmond Lake
Kanopolis Lake	Marion Lake	Melvern Lake
Milford Lake	Perry Lake	Pomona Lake
Toronto Lake	Tuttle Creek Lake	

Cedar Bluff Lake

Reservoir Information Sheet

Location	On the Smoky Hill River at river mile 333.7, in Trego County, 18 miles southwest of Ellis. Watershed includes portions of Trego, Gove, Logan, Wallace, Greeley, Scott, Lane, Sherman, Thomas and Wichita counties.
River Basin	Smoky Hill-Saline

Watershed

Watershed Drainage Area**	5530 mi²	**Hydrologic Unit Code**	10260001, 02, 03, 04, 05
Percent of Watershed in Organized Watershed District*	0%	**Elevation of Top of Watershed****	4650 ft.
Watershed Sediment Yield*	0.05 Acre-ft/mi²/yr		

Construction History**

Construction Began	April, 1949	**Top of Dam Elevation****	2198 ft.
Multipurpose Pool Filled	June 21, 1951	**Gates Closed**	November 13, 1950

Current Federally Authorized Purposes**	Originally authorized for irrigation, flood control, and water supply, with incidental benefits for recreation, fish and wildlife, and water quality. In 1992 Congress reformulated the project to create an operating pool for fish, wildlife, and recreation. Irrigation was abandoned and the irrigation district was dissolved.
State Designated Uses***	General purposes, expected aquatic life use, primary contact recreation, food procurement, industrial water supply

Multipurpose Pool - Top Elev. 2144 ft.

Original Survey Year*	1951	**Most Recent Survey Year***	2000
Original Storage Capacity*	185,090 acre-ft.	**Capacity at Most Recent Survey***	172,452 acre-ft
Original Surface Area**	6,869 acres	**Surface Area at Most Recent Survey***	6,869 acres
Design Sedimentation Rate**	260 acre-ft./yr	**Calculated Sedimentation Rate***	256 acre-ft./yr
Design Life for Sediment Storage**	100 Years	**Estimated Current Capacity***	169,632 acre-ft
		Loss of Capacity to Date*	8.35%

Multipurpose Pool Breakout

Quality Storage 0.00%

Water Supply Storage = 0.00% *Assurance District* + *Water Marketing* + 0.00% *Reserve*

Other 0.00%

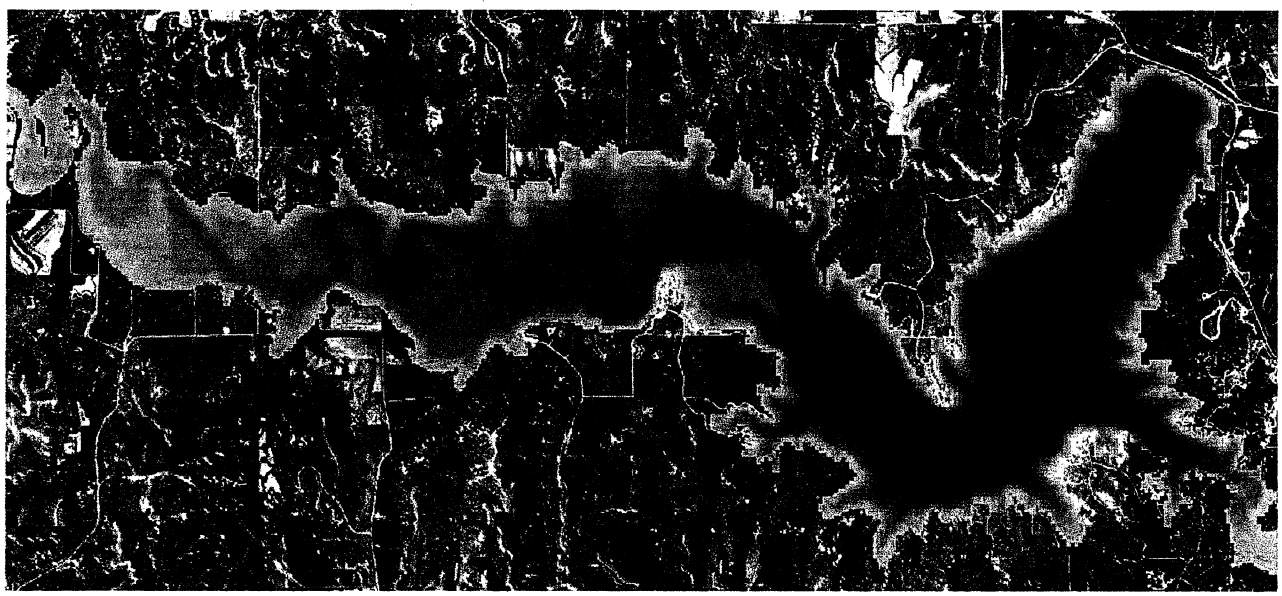
Flood Pool (includes Multipurpose Pool)

Top of Flood Pool	2166 ft.	**Original Surface Area****	acres
Original Storage Capacity*	376,950 acre-ft.	**Design Sedimentation Rate****	260 acre-ft./yr

Lake Level Management Plan | **Recent Bathymetric Surveys**

** Source KWO - ** Source COE - *** Source KDHE*

Bathymetric and Sediment Survey of Wilson Lake Reservoir, Russell County, Kansas



KANSAS BIOLOGICAL SURVEY

Kansas Biological Survey

Applied Science and Technology for Reservoir Assessment (ASTRA) Program

Report 2008-02 (May 2009)

Revised Area-Elevation-Capacity Tables and Figures, January 2010

This work was funded by the Kansas Water Office through the State Water Plan Fund in support of the Reservoir Sustainability Initiative.

SUMMARY

In 2008, the Kansas Biological Survey (KBS) performed a bathymetric survey of Wilson Reservoir in Russell County, Kansas. The survey was carried out using acoustic echosounding apparatus linked to a global positioning system. A pre-impoundment topographic map dated 1960 with a contour interval of five feet (5') was obtained in digital form from the US Army Corps of Engineers via the Kansas Water Office. A digital elevation model of the pre-impoundment surface was created using digitized pre-impoundment contour lines. Comparison of the 2008 bathymetric survey data to the 1960 pre-impoundment map suggests that the capacity of the reservoir at the 1515' elevation pool has been reduced from 235,256 acre-feet to 229,619 acre-feet.

Six sediment cores were extracted from the lake to determine accumulated sediment thickness at locations distributed across the reservoir. Sediment samples were taken from the top six inches of each core and analyzed for particle size distributions.

Summary Data:

Bathymetric Survey:		
	Dates of survey:	July 8, 2008 July 9, 2008 October 2, 2008
	Water elevation on date(s) of survey:	1515.36 ft. 1515.34 ft. 1517.26 ft.
Reservoir Statistics:		
	Elevation of pool on reference date (NAIP photography, 2008)	1515.3 ft.
	Area on reference date:	8458 acres
	Volume on reference date:	232,197 acre-feet
	Maximum depth on reference date:	78.1 ft.
	Year constructed:	1964
Datums		
	UTM Zone:	14N
	UTM datum:	NAD83
	Vertical datum, all data:	NAVD29
Sediment Survey:		
	Date of sediment survey:	October 30, 2008